

INTERNATIONAL SEARCH REPORT

International Application No
PCT/EP 03/10349

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 B65G17/32 B65G17/46 B65B3/00 B65B31/08 B65B55/02
A61J1/00

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 7 B65G B65B A61J

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 02 064439 A (PY DANIEL C) 22 August 2002 (2002-08-22)	1-4,10, 11,14
Y	column 5, line 25 -column 6, line 42; figures 2,9,10	17-23, 25-28, 30,31
Y	---	17-21,23
Y	US 3 881 763 A (BENSON NORMAN E) 6 May 1975 (1975-05-06) cited in the application page 16, line 6 - line 11	---
A	---	1
A	EP 0 213 690 A (PACKARD INSTRUMENT CO INC) 11 March 1987 (1987-03-11) figures 1,2	1
A	---	1,14,20
A	US 3 092 237 A (MILLER HARRY L) 4 June 1963 (1963-06-04) figures 1,2	---
	---	-/-

 Further documents are listed in the continuation of box C. Patent family members are listed in annex.

* Special categories of cited documents :

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the international filing date
- *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the international filing date but later than the priority date claimed

- *T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- *Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- *&* document member of the same patent family

Date of the actual completion of the international search

22 March 2004

Date of mailing of the international search report

02.04.2004

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
Fax: (+31-70) 340-3016

Authorized officer

Lawder, M

INT'L. NATIONAL SEARCH REPORT

International Application No
PCT/EP 03/10349

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 5 558 200 A (KRISMANTH KENNETH A ET AL) 24 September 1996 (1996-09-24) figures 4,5 ---	1,14
Y	US 2 503 147 A (NORMAN APPLEZWEIG) 4 April 1950 (1950-04-04) column 6, line 48 - line 53; figure 4 ---	22
A	US 6 360 794 B1 (TURNER TERRY D) 26 March 2002 (2002-03-26) column 9, line 1 - line 12; figure 5 ---	22,23
A	DE 199 16 662 A (BOSCH GMBH ROBERT) 19 October 2000 (2000-10-19) column 1, line 64 -column 2, line 25; figure 2 ---	22,23
X	US 6 098 676 A (POYNTER RICHARD Q ET AL) 8 August 2000 (2000-08-08) column 3, line 20 -column 4, line 43; figure 1 ---	24
Y		25-28, 30,31
A	EP 0 096 336 A (ZANASI SPA) 21 December 1983 (1983-12-21) the whole document -----	24

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/EP 03/10349

Patent document cited in search report	Publication date	Patent family member(s)			Publication date
WO 02064439	A 22-08-2002	US 2002023409 A1	BR 0116879 A	CA 2449704 A1	28-02-2002
			EP 1370471 A1	WO 02064439 A1	17-02-2004
			US 2003159750 A1		22-08-2002
					28-08-2003
US 3881763	A 06-05-1975	NONE			
EP 0213690	A 11-03-1987	AU 6119686 A	EP 0213690 A2	FI 862472 A	05-03-1987
				JP 62055586 A	11-03-1987
US 3092237	A 04-06-1963	NONE			
US 5558200	A 24-09-1996	AU 2430395 A	WO 9529860 A1		29-11-1995
					09-11-1995
US 2503147	A 04-04-1950	NONE			
US 6360794	B1 26-03-2002	NONE			
DE 19916662	A 19-10-2000	DE 19916662 A1			19-10-2000
US 6098676	A 08-08-2000	US 5947170 A			07-09-1999
EP 0096336	A 21-12-1983	IT 1156605 B	AT 31270 T	DE 3374853 D1	04-02-1987
				EP 0096336 A2	15-12-1987
				JP 59040859 A	21-01-1988
					21-12-1983
					06-03-1984